Status of Claims:

1. (CANCELLED)

2. (Previously Presented) A method and implementation for detecting and characterizing audible transients in noise, comprising:

placing a microphone in a predetermined location;

producing a microphone signal wherein the microphone signal is indicative of the acoustic environment;

processing the microphone signal to estimate the acoustic activity that takes place in the human auditory system in response to the acoustic environment;

producing an excitation signal indicative of the estimated acoustic activity;

processing the excitation signal to identify each impulsive sound frequency-dependent activity as a function of time;

producing a detection signal indicative of audible impulse sounds;

processing the detection signal to identify an audible impulsive sound; and

characterizing each impulsive sound includes establishing its time-of-occurrence.

3. (Original) The method of Claim 2, wherein characterizing each impulse sound comprises:

establishing its intensity.

4.-6. (CANCELLED)

7. (Previously Presented) The method of Claim 9, wherein producing a detection signal comprises:

combining both the normalized impulse magnitudes and the uncompressed impulse magnitudes of the bandpass signals; and

comparing both the combined normalized impulse magnitude to a given threshold and the combined uncompressed impulse magnitude to a given threshold.

8. (Previously Presented) The method of Claim 9, wherein an audible impulsive sound occurs when the magnitude of the combined normalized impulse is greater than the given magnitude threshold and when the magnitude of the uncompressed impulse is greater than the given magnitude threshold.

9. (Previously Presented) A method and implementation for detecting and characterizing audible transients in noise, comprising:

placing a microphone in a predetermined location;

producing a microphone signal wherein the microphone signal is indicative of the acoustic environment;

processing the microphone signal to estimate the acoustic activity that takes place in the human auditory system in response to the acoustic environment, said step of processing the microphone signal includes dividing the microphone signal into a plurality of signals, bandpass filtering each of the divided signals to pass signals having desired center frequencies, and processing the bandpass signals to produce the excitation signal indicative of *the estimated acoustic activity by extracting an envelope signal indicative of the waveform* envelope for each of the bandpass signals, converting the envelope signal for each of the bandpass signals to an excitation level used in the human auditory system; and temporal masking the converted envelope signal for each of the bandpass signals;

producing an excitation signal indicative of the estimated acoustic activity;

processing the excitation signal to identify each impulsive sound frequency-dependent activity as a function of time by compressing the temporal masked converted envelope signal for each of the bandpass signals, detecting impulses of the temporal mask converted envelope signal for each of the bandpass signals, calculating the magnitudes of the detected impulses for each of the bandpass signals, normalizing the calculated impulse magnitudes for each of the bandpass signals, and thresholding the normalized impulse *magnitudes for each of the bandpass signals;*

producing a detection signal indicative of audible impulse sounds;

processing the detection signal to identify an audible impulsive sound; and characterizing each impulsive sound.